IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	Tokimi Nago et al.
Serial No.	:	10/747,825
Filed	:	December 29, 2003
TC/A.U.	:	2878
Confirmation No:		6470
Examiner	:	
Docket No.	:	03-744
Customer No.	:	34704

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In accordance with the requirements of 37 CFR 1.97 and 1.98, Applicant hereby submits the documents listed hereinbelow, copies enclosed.

(1) Japanese Utility Model Registration No. 3037946, entitled AN OPTICAL SENSING DEVICE FOR BILL VALIDATOR, By O. Kobayashi, published June 6, 1997. This patent discloses an optical sensing device for a bill validator comprising: plural optical sensors 13, 14, 15 positioned in the vicinity of a passageway for detecting patterns and thickness of the moving bill to produce detection signals of different waveforms; plural light sources 2, 3, 4 for emitting light toward said optical sensors 13, 14, 15; semi-cylindrical

lenses 8, 10 positioned between said passageway and said optical sensors 13, 14, 15; and a casing having the volume for accommodating a predetermined combined shape of said optical sensors 13, 14, 15, light sources 2, 3, 4 and semi-cylindrical lenses 8, 10.

(2) Japanese Patent Disclosure No. 63-37494, entitled LIGHTS TRANSMISSIVE AND REFLECTIVE SENSOR, By K. Fujimura, published February 18, 1988. This patent discloses a sensor for detecting lights transmitted through and reflected on a moving paper, said sensor comprising: optical sensors having first and second light emitting elements LED1, LED2 and first and second light receiving elements PD1, PD2 positioned on four points along X type optical axes; said first and second light emitting elements LED1, LED2 being alternately turned on for synchronizing control; and switch means S_1-S_4 for dividing lights received by said first and second light receiving elements PD1, PD2 into penetration and reflection light components.

(3) U.S. Patent No. 5,304,813 entitled APPARATUS FOR THE OPTICAL RECOGNITION OF DOCUMENTS, By De Man, patented April 19, 1994. The abstract is attached hereto.

(4) Patent Abstracts of Japan Publication No. 2001-093017, entitled METHO FOR DISCRIMINATING AUTHENTICITY OF PAPER SHEETS, By Nakano Osamu, published April 6, 2001. This patent is in Japanese however an English abstract is attached hereto.

(5) Japanese Patent No. 3-79457 entitled OPTICAL COUPLER, By M. Yamamoto, published August 13, 1991. This patent discloses an optical coupler comprising: a first light emitting element array 32 which includes plural first light emitting elements 32-1 to 32-n for emitting lights having a specific light wavelength; a second light emitting element array 33 which includes plural second light emitting elements 33-1 to 33-n for emitting lights having the light wavelength different from that of the lights emitted from said first light emitting elements 32-1 to 32-n; a light receiving element array 34 which includes plural light receiving elements 34-1 to 34-n; a single package for accommodating said first and second light emitting element arrays 32, 33 and light receiving element array 34 to from a single light emitting and receiving unit; a first drive circuit 35 for turning on or off one after another said first light emitting elements

32-1 to 32-n in the first light emitting element array 32 in response to first clock signals; a second drive circuit 37 for turning on or off one after another said second light emitting elements 33-1 to 33-n in the second light emitting element array 33 in response to second clock signals; said first and second clock signals being alternately activated; a multiplexer 38 for controlling said light receiving elements 34-1 to 34-n in said lights receiving element array 34 to turn on or off the light receiving elements 34-1 to 34-n in synchronization with said first and second clock signals; and a distributing circuit 40 for selectively generate outputs from said light receiving array 34 in synchronization with the first clock signals when said light receiving element array 34 receives lights from said first light emitting element array 32, or outputs from said light receiving array 34 in synchronization with the second clock signals when said light receiving element array 34 receives lights from said second light emitting element array 33.

The undersigned submits the above-identified references for independent consideration by the Examiner and does not make any admission that these references are or are not material to the

present invention or that these references are or are not prior art with respect to the present invention.

Respectfully submitted,

Tokimi Nago et al.

By _____
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Date: July 8, 2004

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313" on July 8, 2004.

Rachel Piscitelli

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	10/747,825
Filing Date	December 29, 2003
First Named Inventor	Tokimi Nago et al.
Art Unit	2878
Examiner Name	
Attorney Docket Number	03-744

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 5,304,813	04-19-1994	De Man	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		JP 3037946	06-06-1997	O. Kobayashi		
		JP 63-37494	02-18-1988	K. Fujimura		
		JP 2001-093017	04-06-2001	Nakano Osamu		
		JP 3-79457	08-13-1991	M. Yamamoto		

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.